

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:
Bruce G. Woodward, et al

Serial No.: 10/708,920

Filed: March 31, 2004

For: Hierarchical Entitlement System with
Integrated Inheritance and Limit Checks

Examiner: Madamba, Clifford B.

Art Unit: 3692

APPEAL BRIEF

Mail Stop Appeal
Commissioner for Patents
P.O. Box 1450
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Sir:

BRIEF ON BEHALF OF BRUCE G. WOODWARD, ET AL

This is an appeal from the Final Rejection mailed May 8, 2008, in which currently-pending claims 1-22 and 24 stand finally rejected. Appellant filed a Notice of Appeal on August 11, 2008. This brief is submitted electronically in support of Appellant's appeal.

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1. REAL PARTY IN INTEREST

The real party in interest is assignee Sybase, Inc. located at One Sybase Drive, Dublin, CA 94568.

2. RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences known to Appellant, the Appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

3. STATUS OF CLAIMS

The status of all claims in the proceeding is as follows:

Rejected: Claims 1-22, 24

Allowed or Confirmed: None

Withdrawn: None

Objected to: None

Canceled: Claim 23

Identification of claims that are being appealed: Claims 1-22, 24

An appendix setting forth the claims involved in the appeal is included as Section 8 of this brief.

4. STATUS OF AMENDMENTS

One Response / Request for Reconsideration has been filed in this case. Appellant filed a Response / Request for Reconsideration on February 1, 2008 in response to a non-final Office Action dated November 5, 2007 setting forth in detail the reasons why Appellant believes that the claimed invention is clearly distinguished over the art of record and overcomes the art rejections. In response to the Examiner's Final Rejection dated January 9, 2008 (hereinafter "Final Rejection") finally rejecting Appellant's claims, Appellant filed a Notice of Appeal. Subsequently, Appellant filed an Amendment After Appeal on October 7, 2008 canceling claim 23 in response to the Examiner's objection to that claim. Appellant discussed the Amendment After Appeal with the Examiner on October 7, 2008 and was informed that the Amendment would be

entered. Appellant has chosen to forego making other amendments to the claims as it is believed that further amendments to the claims are not warranted in view of the art.

5. SUMMARY OF CLAIMED SUBJECT MATTER

Appellant asserts that the art rejections herein fail to teach or suggest all of the claim limitations of Appellant's claimed invention, where the claimed invention is set forth in the embodiment in **independent claim 1**: A computer-implemented method for specifying and enforcing entitlements for performance of financial transactions (see e.g., Appellant's specification, paragraph [0013], paragraphs [0043]-[0044], paragraphs [0055]-[0056], paragraph [0059]; also see generally, e.g., Fig. 1, Fig. 2, Fig. 3; Figs. 5A-B), the method comprising: providing a hierarchical entitlement structure with inheritance for specifying entitlements for performing financial transactions (see e.g., Appellant's specification, paragraph [0013], paragraph [0045], paragraph [0063], paragraphs [0066]-[0068], paragraph [0073], paragraph [0079], paragraph [0112]; also see, e.g., Fig. 4; Fig. 5A at 501-503), receiving user input for defining a plurality of entitlement groups of said hierarchical entitlement structure (see e.g., Appellant's specification, paragraph [0013], paragraphs [0046]-[0047], paragraph [0049], paragraph [0067], paragraph [0073], paragraphs [0079]-[0080], paragraph [0153]; also see, e.g., Fig. 4; Fig. 5A at 501-502), wherein each entitlement group has specified permissions to perform financial transactions, limits on performance of said financial transactions, and membership of each user (see e.g., Appellant's specification, paragraph [0013], paragraph [0044], paragraphs [0046]-[0047], paragraph [0049], paragraphs [0066]-[0068], paragraph [0073], paragraph [0081]; also see, e.g., Fig. 4; Fig. 5A at 503), in response to a particular user request to perform a financial transaction at runtime, identifying the particular user's membership in a certain entitlement group (see e.g., Appellant's specification, paragraph [0013], paragraphs [0046]-[0047], paragraph [0082]; also see, e.g., Fig. 5A at 504-505), and determining whether to allow the particular user to perform the financial transaction based on permissions and limits of said hierarchical entitlement structure applicable to the particular user's performance of the financial transaction (see e.g., Appellant's specification, paragraph [0013], paragraphs [0046]-[0047], paragraphs [0083]-[0085]; also see, e.g., Figs. 5A-B at 506-511).

Appellant further asserts that the art rejections herein fail to teach or suggest all of the claim limitations of Appellant's **dependent claim 12**, with claim limitations of defining limits applying collectively to a particular entitlement group and children entitlement groups of said particular entitlement group in said hierarchical entitlement structure (see e.g., Appellant's specification, paragraph [0047], paragraph [0049], paragraph [0075], paragraph [0114], paragraph [0151]; Fig. 5B at 508-509; also see generally, e.g., Fig. 4).

Appellant further asserts that the art rejections herein fail to teach or suggest all of the claim limitations of Appellant's **dependent claim 8**, with claim limitations wherein defining a plurality of entitlement groups includes defining limits comprising a selected one of per-transaction limits and cumulative limits over a period of time (see e.g., Appellant's specification, paragraph [0047], paragraph [0075], paragraph [0114], paragraph [0151]; Fig. 5B at 508-509; also see generally, e.g., Fig. 4).

Appellant further asserts that the art rejections herein fail to teach or suggest all of the claim limitations of Appellant's **dependent claim 2**, which includes claim limitations of a hierarchical entitlement structure in which a given entitlement group inherits permissions provided to its parent entitlement group in said hierarchical entitlement structure (see e.g., Appellant's specification, paragraph [0043], paragraph [0045], paragraphs [0067]-[0068], paragraph [0112]; Fig. 5A at 503; also see generally, e.g., Fig. 4).

Appellant further asserts that the art rejections herein fail to teach or suggest all of the claim limitations of Appellant's **dependent claim 3**, which includes claim limitations of defining a plurality of entitlement groups including restricting permissions inherited by an entitlement group from its parent entitlement group in said hierarchical entitlement structure (see e.g., Appellant's specification, paragraph [0043], paragraph [0045], paragraphs [0067]-[0068], paragraph [0112]; Fig. 5A at 503; also see generally, e.g., Fig. 4).

6. GROUNDS OF REJECTION TO BE REVIEWED

The grounds for appeal are:

(1st) Whether claims **1, 4-5, 7-8, 10-16, 18-22 and 24** are unpatentable under 35

U.S.C. Section 103(a) as being obvious over U.S. Patent 6,1261,139 to Win (hereinafter "Win") in view of U.S. Published Application 2002/0029339 of Rowe (hereinafter "Rowe"); and

(2nd) Whether claims **2-3, 6, 9 and 17** are unpatentable under 35 U.S.C. Section 103(a) as obvious over Win (above) in view of Rowe (above) and further in view of U.S. Patent 6,202,066 to Barkley (hereinafter "Barkley").

7. ARGUMENT

A. First Ground: Claims 1, 4-5, 7-8, 10-16, 18-22 and 24 rejected under 35 U.S.C. 103(a)

1. General

Under Section 103(a), a patent may not be obtained if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. To establish a prima facie case of obviousness under this section, the Examiner must establish: (1) that there is some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, (2) that there is a reasonable expectation of success, and (3) that the prior art reference (or references when combined) must teach or suggest all the claim limitations. (See e.g., MPEP 2142). The reference(s) cited by the Examiner fail to meet these conditions.

2. Claims 1, 4-5, 7, 10-11, 13-16, 18-22 and 24

The Examiner has rejected Appellant's claims 1, 4-5, 7-8, 10-16, 18-22 and 24 under 35 U.S.C. Section 103(a) as being obvious over U.S. Patent 6,1261,139 to Win (hereinafter "Win") in view of U.S. Published Application 2002/0029339 of Rowe (hereinafter "Rowe"). The following rejection of Appellant's claims 1 by the Examiner is representative of the Examiner's rejection of the Appellant's claims under Section 103:

Re claim 1, Win teaches the limitation of a computer-implemented method for specifying and enforcing entitlements for performance of financial transactions, the method comprising:

providing a hierarchical entitlement structure with inheritance for specifying entitlements for performing financial transactions (column 4, lines 22-26; column 5, lines 7-8);
in response to a particular user request to perform a financial transaction at runtime, identifying the particular user's membership in a certain entitlement group (column 5, lines 45-55);
determining whether to allow the particular user to perform the financial transaction based on permissions and limits of said hierarchical entitlement structure applicable to the particular user's performance of the financial transaction (column 4, lines 15-18);
receiving user input for defining a plurality of entitlement groups of said hierarchical entitlement structure, wherein each entitlement group has specified permissions to perform financial transactions (column 15, lines 15-21; column 4, lines 24-26).

Win doesn't explicitly teach the limitation comprising limits on performance of said financial transactions, and membership of each user. Rowe, however, makes this teaching (paragraph 12, lines 5-13; paragraph 14). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching of Rowe with those of Win as discussed above for the motivation of establishing entitlement to access the account (Rowe, abstract).

(Final Rejection, paragraph 7, page 8)

At the outset, Appellant does not claim to have invented the notion of associating roles with administrative privileges. Appellant acknowledges that the general teaching of role-based administrative privileges is known in the art and is described by Win and other prior art references. However, Appellant's claimed invention serves a different and distinct role in that it is focused on specifying and enforcing entitlements (including permissions and limits) for performing financial transactions (see e.g., Appellant's specification, paragraph [0013]). Appellant's solution utilizes a hierarchical structure for specifying and enforcing entitlements for performing financial transactions that is particularly useful in banking and other financial applications and is distinguishable from the cited prior art references in a number of respects as discussed below.

As mentioned above, one difference between Appellant's invention and the cited prior art references is that Appellant's invention is focused on specifying and enforcing entitlements (e.g., permissions and limits) for performing financial transactions, which can be used as part of a financial application such as a corporate banking application (see e.g., Appellant's specification, paragraph [0013], paragraph [0043]). The entitlements

that may be defined and enforced using Appellant's invention include application-specific entitlements (e.g., performing certain functions of an application), transaction entitlements (e.g., performing certain transactions or operations on an object), and limits or limit entitlements such as a maximum dollar limit for payments or similar banking functions (see e.g., Appellant's specification, paragraph [0044]). These features are included as limitations of Appellant's claims including, for instance, the following limitations of Appellant's claim 1:

A computer-implemented method for specifying and enforcing entitlements for performance of financial transactions, the method comprising: providing a hierarchical entitlement structure with inheritance for specifying entitlements for performing financial transactions; receiving user input for defining a plurality of entitlement groups of said hierarchical entitlement structure, wherein each entitlement group has specified permissions to perform financial transactions, limits on performance of said financial transactions, and membership of each user;

(Appellant's claim 1, emphasis added)

Here, the entitlements that may be specified and enforced with Appellant's claimed invention include whether a given user is allowed to perform certain financial transactions (e.g., create wire transactions) as well as limits on the user's performance of permitted activities, such as setting a dollar limit for payment operations and other banking functions (see e.g., Appellant's specification, paragraph [0044]).

In the Final Rejection the Examiner continues to argue that Win's teachings of associating users with one or more administrative roles and associating each defined administrative role with one or more administrative privileges (Win, Abstract and col. 1, lines 18-24) are comparable to Appellant's solution for specifying and enforcing entitlements for performance of financial transactions (Final Rejection, paragraph 4, pages 2-3). The Examiner states that because one of the job functions mentioned by Win includes "financial analyst" that implies that a financial analyst performs a finance-related function (Final Rejection, paragraph 4, page 3). The Examiner then stretches the position and purported teachings of Win even further by arguing that since by implication a financial analyst performs some sort of finance-related function, one can leap to the conclusion that "it is therefore clear that the limitation of privileges and limitations for

performing financial transactions is taught by Win" (Final Rejection, paragraph 4, page 3). Respectfully, one cannot logically make any such leap. The mere mention of the fact that an organization may have an employee with a job title of "financial analyst" does not teach anything about how financial transactions may actually be performed or how a system for specifying and enforcing entitlements (e.g., permissions and limits) for performing financial transactions may actually be constructed, particularly when Win makes no mention whatsoever of performing financial transactions. As Win does not provide any discussion of financial transactions being performed, there is nothing to teach or remotely suggest how one might use Win's system to specify and enforce permissions and limits for performing financial transactions.

Additionally, Win's access control system does not include a hierarchical entitlement structure with inheritance comparable to that of Appellant's claimed invention. Appellant's solution provides a hierarchical entitlement structure with inheritance that includes a hierarchy of roles in which a given subordinate role inherits attributes from its parent (i.e., superior) role (see e.g., Appellant's specification, paragraph [0045]; also see e.g., Fig. 5A at 501-502). The inheritance from above is negative (i.e., restrictive) in nature (see e.g., Appellant's specification, paragraph [0045]; also see, e.g., paragraph [0112]; also see e.g., Fig. 5A at 503). The root node resides at the top of the inheritance hierarchy, serving as an administrator who may perform all functions in the system (see e.g., Appellant's specification, paragraph [0045]). As the entitlement hierarchy of Appellant's solution is traversed downward from the root, additional restrictions are applied to subordinate roles; subordinate roles cannot have greater permissions than their parent (see e.g., Appellant's specification, paragraph [0045]; see also, paragraph [0068]). By operating in this fashion, Appellant's hierarchical entitlements solution with inheritance provides a much more flexible solution as shown, for example, by the following:

The system and methodology of the present invention allows an organization to define limits that are not only cumulative to a specific role but that also roll up through the entire role hierarchy. A business may, for example, specify that (1) its accounts receivable function is able to perform wire transactions, subject to limits of \$1,000 per wire, \$1,000 per day, and \$20,000 per month, (2) its accounts payable function has the same limit, but (3) the controller function has a different

set of limits. Suppose that, for this particular business, the accounts receivable, accounts payable, and controller function roll up to the CFO (chief financial officer) function in the organization's hierarchy, and the CFO role itself has a specified limit of \$50,000 per day and \$100,000 per month. In this circumstance, the present invention enables the organization to define and enforce limitations that the combination of functions under the CFO cannot collectively spend more than the limit specified for the CFO.

(Appellant's specification, paragraph [0047]).

Although Win's system also provides for defining roles, with each role having a set of permissions, it makes no mention of a hierarchical entitlements structure with inheritance between roles. In the Final Rejection the Examiner argues that Win's teachings of providing selective access to information resources to particular users are somehow analogous to Appellant's hierarchical entitlement system with inheritance (Final Rejection, paragraph 4, pages 3-4). However, when one reviews the referenced teachings, one finds they are not at all comparable. The first teachings of Win referenced by the Examiner indicate that there is a need for some mechanism governing access to information resources which gives selective access (Win, column 2, lines 25-27) and there is also a need to selectively delegate to multiple administrators the administration of access control to resources connected to various networks, allowing some of the administrators to administer one set of resources while disallowing others (Win, column 2, lines 35-36). Respectfully, the referenced teachings appear to simply constitute a problem statement that a solution for providing a mechanism for access control to resources is desirable. No mention is made of any sort of hierarchical structure for entitlements used for specifying and enforcing permissions and limits to perform financial transactions.

The Examiner's next takes the above-described teachings as the basis for arguing that "the selective delegation of access privileges by itself designates a hierarchical structure within an organization where access is granted to some and not others". However, what the Examiner is describing is that an organization may be organized in a hierarchical structure (e.g., a corporation with a President/CEO at the top and lower level employees at the bottom). Appellant acknowledges that an organization such as a corporation may be organized hierarchically; however, the manner in which employees of

a corporation or other organization may be organized does not appear at all relevant to how one might develop a computer-implemented solution which regulates the performance of financial transactions. Appellant's claimed invention comprises a computer-implemented solution including a hierarchical entitlement structure with inheritance for specifying entitlements for performing financial transactions. As described above, with this hierarchical entitlements structure in which subordinate roles inherit entitlements (e.g., permissions and limits) from parent roles. Appellant's review of Win finds no mention whatsoever of any hierarchical entitlements structure or of users having one role to gaining permissions (entitlements) from other roles through inheritance.

The Examiner argues in the Final Rejection (paragraph 4, page 4) that Win does, in fact, disclose the "passing on" of access or entitlement privileges within an organization using the following example:

Any user who is assigned the role of "Sales Manager" in the future will automatically have access to the "National Sales Report" resource. If the administrator later un-assigns "Sales Manager" from the "National Sales Report" resource, then all users associated with the "Sales Manager" role will automatically lose access to the resource.

(Win, col. 18, lines 27-34)

This example is not one of inheritance, but rather simply is an example of conventional role-based permissions. All users assigned the role of "Sales Manager" have the same permissions. When the administrator adds a user to the Sales Manager role, then the newly added user has the same permission to access the specified resource as all other users having the same role. When the administrator withdraws the privilege to access the resource from the role, all users associated with the Sales Manager role lose the privilege. However, there is no teaching of a given role inheriting permissions from any other role.

The difference between Win's approach and that of Appellant can be illustrated by example. Suppose, for instance, a Customer Service Representative needs permission for performing transactions a1, a2 and a3. Furthermore, a Customer Service Manager needs permissions for everything a Customer Service Representative can do (i.e., a1, a2 and a3)

plus c1. Additionally, assume a Customer Service Director needs permission for everything a Customer Service Manager can do (i.e., a1, a2, a3 and c1) plus d1. In Win's system, these permissions can be assigned one of the two ways described below.

The first approach which can be used in Win's system is to create three roles as follows (i) role CSR with permissions a1, a2, a3; (ii) role CSM with permission c1; and role CSD with permission d1. The role CSR would then be assigned to the Customer Service Representative. The Customer Service Manager would then be assigned two roles (CSR and CSM) and the Customer Service Director would be assigned all three roles (CSR, CSM, CSD). As illustrated, as one goes up the management chain in an organization, administration of this type of access control system becomes cumbersome due to the number of roles that need to be assigned to some users.

The second approach which can be utilized with Win's system would be to define the same three roles, but assign the privileges differently as follows: (i) role CSR with permissions a1, a2, a3; (ii) role CSM with permissions a1, a2, a3, c1; and (iii) role CSD with permissions a1, a2, a3, c1, d1. However, consider what happens when a Customer Service Representative needs permission to do a4, and therefore Customer Service Managers and Directors also need to do a4. This requires that all three roles be changed to add the permission to do a4, which is inconvenient and more difficult to administer.

With Appellant's hierarchical entitlement structure with inheritance, in contrast, one can define an inheritance relationship between the Customer Service Manager role and the Customer Service Representative role and another relationship between the Customer Service Director and the Customer Service Manager. Each user can still have one role (e.g., Customer Service Manager), yet gain permissions from other roles through inheritance. This makes management of permissions in a hierarchical environment such as a corporation easier to model and administer. The features of a hierarchical entitlement structure with inheritance are also included as limitations of Appellant's claims. For example, Appellant's claim 1 includes the following:

providing a hierarchical entitlement structure with inheritance for specifying entitlements for performing financial transactions;
receiving user input for defining a plurality of entitlement groups of said hierarchical entitlement structure, wherein each entitlement group has specified permissions to perform financial transactions, limits on performance of said

financial transactions, and membership of each user; in response to a particular user request to perform a financial transaction at runtime, identifying the particular user's membership in a certain entitlement group; and determining whether to allow the particular user to perform the financial transaction based on permissions and limits of said hierarchical entitlement structure applicable to the particular user's performance of the financial transaction.

(Appellant's claim 1, emphasis added)

In addition to the above-described shortcomings of Win as to Appellant's claimed invention, the Examiner also acknowledges that Win provides no teachings of limits on performance of financial transactions and membership of users in entitlement groups of the previously discussed hierarchical entitlement structure. Thus, the Examiner adds Rowe for these teachings. Turning to the teachings of Rowe, one finds that although Rowe mentions the word "limit" it does not include features for defining and enforcing limits on the performance of financial transactions comparable to Appellant's claimed invention.

Rowe describes a solution for opening a new bank or financial account with a financial provider electronically (Rowe, paragraph [0012], paragraphs [0028]-[0029]). As part of Rowe's methodology for establishing an account, a "value limit" is assigned to the account (Rowe, paragraph [0012]). This value limit is the maximum amount of funds what will be held in the account, which is typically the amount of the initial deposit into the account (Rowe, paragraph [0040]). Thus, Rowe's value limit is a single number that is assigned to an account that is checked when funds enter the account (Rowe, paragraphs [0040]-[0041]). In other words, Rowe's "value limit" is a number associated with a given financial account (e.g., bank account) and is not a limit which is tied to a user's role. In fact, Appellant's review of Rowe finds no mention of roles with permissions relating to the type and amount of financial transactions that may be performed by users having such roles.

With Appellant's claimed invention, in contrast, an entitlement group has specified permissions to perform financial transactions and limits on the transactions that are performed. A user's membership in an entitlement group determines the permissions and limitations to which the user is subject. Rowe's teachings are not comparable as the

limitations described by Rowe are tied to particular accounts rather than to users or roles (i.e., members of entitlement groups). In particular, Rowe makes no mention of the fact that a user may belong to an entitlement group which gives the user certain permissions and limits to perform financial transactions.

3. Claim 12

The above-described distinctions between the hierarchical entitlements structure of Appellant's invention and the role-based permissions of Win are made even more apparent when one considers the limitations of Appellant's dependent claims. For example, Appellant's dependent claim 12 includes the following limitations:

The method of claim 1, wherein said step of defining a plurality of entitlement groups includes defining limits applying collectively to a particular entitlement group and children entitlement groups of said particular entitlement group in said hierarchical entitlement structure.

(Appellant's claim 12, emphasis added)

Consider the example previously described above in this document. Appellant's invention enables an organization, for example, to define and enforce limitations applicable to the CFO of an organization as well as all those in the organization that report to the CFO. In other words, the limits applicable to the CFO apply not only to the CFO, but also apply to the combination of functions under the CFO such that they cannot collectively spend more than the limit specified for the CFO (see e.g., Appellant's specification, paragraph [0047]).

In this case, the Examiner references the following teachings of Win as being comparable to the above-claimed features of Appellant's invention:

The Role Admin privilege may be delegated to owners of a particular resource, for example the technical support database. Administrators in the Technical Support Department would be able to control who has access to that resource by assigning or removing roles associated with that resource from user accounts. The list of roles that may be managed by an administrator with this privilege is limited to the roles that have been assigned to their associated Admin Role record.

(Win, col. 16, lines 59-67)

As illustrated in the above text, Win makes no mention of a hierarchical

entitlements structure in which a particular entitlement group has a child entitlement group. Additionally, Win makes no mention of limits, whether such limits are being applied to one or more entitlement groups (roles) or otherwise. In fact, as indicated at paragraph 7 on page 8 of the Final Rejection the Examiner acknowledges Win does not include teachings of limits on performance of financial transactions. Given that the Examiner admits Win does not teach limits on performance of financial transactions in general, it is clear that Win also cannot teach defining limits which apply collectively to more than one entitlement group as provided in the limitations of Appellant's claim 12.

4. Claim 8

Further distinctions between Appellant's claimed invention and the Win and Rowe references are found in other dependent claims. For example, Appellant's dependent claim 8 includes the following limitations:

The method of claim 1, wherein said step of defining a plurality of entitlement groups includes defining limits comprising a selected one of per-transaction limits and cumulative limits over a period of time.

(Appellant's claim 8, emphasis added)

Appellant's claimed invention enables a user or administrator to define both per-transaction limits and cumulative limits over a period of time for each type of activity being performed by users having a given role (i.e., membership in a given entitlement group) (see e.g., Appellant's specification, paragraph [0151]; see also paragraph [0047]). For example, limits for each role (including those which are inherited) may be established per-transaction as well as per day, per week and/or per month for each type of activity being performed by the user. In this manner Appellant's invention enables one to define a "mass market consumer" role which has permission to pay bills up to a maximum amount of \$500 per bill, with a maximum cumulative limitation of \$2,000 per week. Another "affluent consumer" role can be defined which permits a user having such role to pay bills up to \$1,000 per bill, up to \$5,000 per week and may perform external transfers of up to \$10,000 per month.

In the Final Rejection the Examiner references Rowe at paragraphs [0040] for the corresponding teachings. However, the referenced paragraph reads as follows:

In a step Sle, the account provider assigns the account with a maximum funds value or value limit. In general, this value may be selected by the customer. Most often, the maximum value will comprise the amount of an initial deposit into the account by the customer. In one or more embodiments, the account provider may only offer accounts having pre-set limits, such as \$50, \$100, \$250 or \$500.

(Rowe, paragraph [0040])

Respectfully, the above teachings of Rowe simply describe a fixed "maximum funds value" or "value limit" assigned by an account provider to a given financial account. In contrast to Rowe's teachings of single values associated with a given financial account, Appellant's claimed invention provides for per-transaction and cumulative limits which are applicable to particular users or roles. More generally (and as previously discussed) the values described by Rowe are tied to accounts and not roles and thus are individual to a particular customer account, having no relevance to other limits. Therefore, the referenced teachings are not remotely comparable to the above-described features of Appellant's claimed invention.

5. Conclusion

All told, Win and Rowe, even when combined, do not provide a solution which enables one to define and enforce permissions and limits for performing financial transactions. In addition, neither reference includes teachings of a solution providing a hierarchical entitlement structure with inheritance in which a particular role inherits entitlements from another role. In addition, without teaching the hierarchical entitlement structure, the combined references cannot include any teaching of defining both per transaction limits and cumulative limits over a period of time for each type of activity being performed for entitlement groups of the hierarchical entitlement structure. Therefore, as the Win and Rowe references, even when combined, do not teach or suggest all of the claim limitations of Appellant's claims, it is respectfully submitted that claims 1, 4-5, 7-8, 10-16, 18-22 and 24 (as well as other claims) distinguish over the combined references and the rejection under Section 103 should not be sustained.

B. Second Ground: Claims 2-3, 6, 9 and 17 rejected under 35 U.S.C. 103(a)

1. Claims 2-3, 6, 9 and 17

Claims 2-3, 6, 9 and 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Win (above) in view of Rowe (above) and further in view of U.S. Patent 6,202,066 to Barkley (hereinafter "Barkley"). As to these claims, the Examiner continues to rely on Win and Rowe, but acknowledges that they do not teach certain limitations of these dependent claims as discussed below in more detail. The Examiner therefore adds Barkley as providing teachings corresponding to the limitations of these dependent claims.

Appellant's claims are believed to be allowable for at least the reasons cited above (as to the first Section 103 rejection) pertaining to the deficiencies of Win and Rowe as to Appellant's invention. As these claims are dependent upon, and incorporate the limitations of Appellant's independent claims, they are distinguishable for the reasons previously described in detail in Appellant's **First Ground of Appeal** (incorporated by reference herein). As Barkley does not provide any teaching of a hierarchical entitlement structure with inheritance for specifying entitlements for performing financial transactions, it does not cure the deficiencies of these references as to Appellant's invention. Appellant also believes that these dependent claims are distinguishable for the following additional reasons.

2. Claims 2-3, 6, 9 and 17

As previously discussed, Appellant's solution provides a hierarchical entitlements structure with inheritance enabling one role to inherit permissions from another role. More particularly, Appellant's claimed invention provides for a hierarchy of roles in which roles are inherited from above (see e.g., Appellant's specification, paragraph [0045]; see also, e.g., Fig. 5A at 501-503). Significantly, Appellant's approach is to structure such inheritance negatively so as to apply restrictions as one goes down in the hierarchical entitlements structure (see e.g., Appellant's specification, paragraph [0045]). With Appellant's solution the root node residing at the top of the inheritance structure, for example, has all permissions and may perform all functions in the system (Appellant's specification, paragraph [0045]). As the hierarchy is traversed downward, additional restrictions are applied (Appellant's specification, paragraph [0045]). This approach of restricting inherited permissions is included, for instance, as limitations of Appellant's dependent claim 3 as follows:

The method of claim 2, wherein said step of defining a plurality of entitlement groups includes restricting permissions inherited by an entitlement group from its parent entitlement group in said hierarchical entitlement structure.

(Appellant's claim 3, emphasis added)

Thus, Appellant's solution provides for top-down inheritance in which an entitlement group inherits permissions from its parent, but typically subject to restrictions on such permissions. Although Barkley discusses that one role may inherit from another role, Barkley takes a bottom-up, rather than a top-down, approach to inheritance. As described at column 9, lines 48-51 of Barkley, a "manager" role has its own permissions and also inherits those permissions of its "subordinates" (Barkley, column 9, lines 48-51). Thus, Barkley describes expanding permissions through inheritance rather than restricting them. Another example of Barkley's bottom-up approach to inheritance is described at column 12, lines 19-26 which describes a financial advisor role inheriting privileges from an account rep role, such that the financial advisor has the permissions necessary to function as an account rep (Barkley, column 12, lines 19-26). There is nothing in Barkley to teach or suggest that the lower account rep role includes all the privileges of the higher financial role with limitations. Thus, Barkley in fact teaches away from Appellant's top-down inheritance approach. Additionally, the Examiner also references column 11, lines 39-43 and column 13, lines 14-15 of Barkley as including teachings of restricting permissions inherited from a parent group of Appellant's claim 3. However, Appellant's review of the referenced teachings finds that while they discuss various roles having different object access privileges (e.g., to read, write or delete certain objects) they do not include teachings of restricting permissions inherited from its parent in a hierarchical entitlement structure. Given Barkley's bottom-up approach to inheritance, this is not surprising. Additional restrictions would not typically be applied to managers, for example, on privileges that they inherit from lower level subordinates.

In the Final Rejection, the Examiner argues that Barkley's approach is a "top-down" approach simply because Barkley's solution provides for roles occupying a higher structure in the organization (e.g., branch manager) to have greater access privileges compared to roles at lower levels in the organization, such as employees (Final Rejection,

paragraph 4, page 7). Here, the Examiner appears to again rely on the fact that an organization may be organized hierarchically with senior level employees at the top and lower at the bottom as providing the "hierarchical" structure corresponding to Appellant's claim limitations. However, the "hierarchical structure" referenced in Appellant's specification and claims is not a corporation or organization. Instead, the hierarchical structure of Appellant's claimed invention is a manner of structuring entitlements (e.g., permissions and limits) in a tree form in which the root (all permissions) is at the top, child nodes inherit permissions from parent nodes above, and the permissions inherited by a child from its parent are restricted as one traverses down the entitlement tree structure. In contrast, when one looks at the actual teachings of Barkley regarding inheritance, it is clear that with Barkley's solution managers (i.e., the parent role), inherit permissions held by subordinate employees (children). As shown at Fig. 5 of Barkley, and described at col. 13, lines 41-49, the "financial advisor" role inherits read permissions from "employee" and "account rep" roles as follows:

The Read permission for the files within the accounts directory is granted as a result of the fact that financial_advisor inherits account_rep, which has Read permission as a result of the definition of the accounts_OAT. Also, financial_advisor has Read permission on the file empl_info as a result of the fact that financial_advisor inherits employee and employee has Read permission for all files associated with the employee_read OAT, as is the case for the file empl_info

(Barkley, column 13, lines 41-49)

Barkley also states that while the financial_advisor role inherits permissions from the account_rep role, the financial_advisor role may also have additional permissions (Barkley, column 10, lines 50-55). Thus, rather than restrict the inherited permissions, the Barkley structure expands the permissions of higher level roles by having them inherit from lower level roles. Respectfully, it is clear from this discussion, as well as review of the balance of the reference, that Barkley describes bottom-up, not top-down inheritance.

2. Conclusion

For the reasons discussed above, the combined references do not teach or suggest all of the claim limitations of Appellant's claims 2-3, 6, 9 and 17. Therefore, as the

combined references do not teach or suggest all the limitations of Appellant's claims it is respectfully submitted that Appellant's claimed invention is distinguishable over the prior art and that the Examiner's rejection under Section 103 should not be sustained.

C. Conclusion

The present invention greatly improves the efficiency of the specifying and enforcing permissions and limits for performing financial transactions that may be used with banking and other financial applications. It is respectfully submitted that the present invention, as set forth in the pending claims, sets forth a patentable advance over the art.

In view of the above, it is respectfully submitted that the Examiner's rejection of Appellant's claims under 35 U.S.C. Section 103 should not be sustained. If needed, Appellant's undersigned attorney can be reached at 925 465 0361. For the fee due for this Appeal Brief, please refer to the attached Fee Transmittal Sheet. This Appeal Brief is submitted electronically in support of Appellant's Appeal.

Respectfully submitted,

Date: October 10, 2008

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8. CLAIMS APPENDIX

1. A computer-implemented method for specifying and enforcing entitlements for performance of financial transactions, the method comprising:

providing a hierarchical entitlement structure with inheritance for specifying entitlements for performing financial transactions;

receiving user input for defining a plurality of entitlement groups of said hierarchical entitlement structure, wherein each entitlement group has specified permissions to perform financial transactions, limits on performance of said financial transactions, and membership of each user;

in response to a particular user request to perform a financial transaction at runtime, identifying the particular user's membership in a certain entitlement group; and

determining whether to allow the particular user to perform the financial transaction based on permissions and limits of said hierarchical entitlement structure applicable to the particular user's performance of the financial transaction.

2. The method of claim 1, wherein said hierarchical entitlement structure provides that a given entitlement group inherits permissions provided to its parent entitlement group in said hierarchical entitlement structure.

3. The method of claim 2, wherein said step of defining a plurality of entitlement groups includes restricting permissions inherited by an entitlement group from its parent entitlement group in said hierarchical entitlement structure.

4. The method of claim 1, wherein said step of defining a plurality of entitlement groups includes defining permissions to access particular objects in a financial application.

5. The method of claim 4, wherein said step of defining a plurality of entitlement groups includes defining permissions to perform functions on said particular objects.

6. The method of claim 4, wherein at least some of said particular objects represent bank accounts.

7. The method of claim 1, wherein said limits comprise limitations on values of financial transactions to be performed.

8. The method of claim 1, wherein said step of defining a plurality of entitlement groups includes defining limits comprising a selected one of per-transaction limits and cumulative limits over a period of time.

9. The method of claim 1, wherein said step of defining a plurality of entitlement groups includes defining permissions applying to a selected one of functions of a financial application and objects of a financial application.

10. The method of claim 1, wherein said step of defining a plurality of entitlement groups includes defining limits applicable to individual users.

11. The method of claim 1, wherein said step of defining a plurality of entitlement groups includes defining limits applicable collectively to members of an entitlement group.

12. The method of claim 1, wherein said step of defining a plurality of entitlement groups includes defining limits applying collectively to a particular entitlement group and children entitlement groups of said particular entitlement group in said hierarchical entitlement structure.

13. The method of claim 1, further comprising:
tracking financial transactions performed for purposes of determining compliance with limits.

14. The method of claim 13, wherein said step of tracking financial transactions

performed includes maintaining running total values of financial transactions performed in cache for improved performance.

15. The method of claim 14, wherein said step of determining whether to allow the particular user to perform the financial transaction includes determining whether any limits have been exceeded based on the running total values and the value of the financial transaction requested by the particular user.

16. The method of claim 1, further comprising:
maintaining permission information for entitlement groups in the hierarchical entitlement structure in cache to improve system performance.

17. The method of claim 16, wherein said permission information is modeled as three-tuples representing negative permissions.

18. The method of claim 1, wherein permissions provided to an entitlement group include permissions to administer a certain other entitlement group.

19. The method of claim 18, wherein permissions to administer a particular entitlement group include modifying permissions of said certain other entitlement group.

20. The method of claim 18, wherein said permissions to administer a certain other entitlement group are subject to limitations defined for the entitlement group having said permissions to administer.

21. The method of claim 1, wherein permissions provided to an entitlement group include permissions to extend a certain other entitlement group.

22. The method of claim 21, wherein permissions to extend a certain other entitlement group include permissions to define a child entitlement group of said particular entitlement group.

23. (Canceled)

24. A downloadable set of processor-executable instructions for performing the method of claim 1.

9. EVIDENCE APPENDIX

This Appeal Brief is not accompanied by an evidence submission under §§ 1.130, 1.131, or 1.132.

10. RELATED PROCEEDINGS APPENDIX

Pursuant to Appellant's statement under Section 2, this Appeal Brief is not accompanied by any copies of decisions.